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EXAMINER	
RACHUBA, MAURINA T	
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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/800,516
Filing Date: March 15, 2004
Appellant(s): GOERS, BRIAN D.

James A. Baker
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 07 June 2007 appealing from the Office action mailed 02 August 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,361,423	Gurusamy et al	3-2002
6,679,243	Sung	1-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Gurusamy et al, 6,361,423. Please refer especially to figures 3A, 7A and 9, and column 9, lines 45 through column 11, lines 67. Gurusamy discloses a conditioning disk **80** comprising a substrate **82**, a plurality of abrasive particles (column 7, lines 52-55), and a carrier **158**, wherein: the substrate has top and bottom surfaces (here, the top surface in use is applied to the polishing pad to condition it, as is applicant's top surface, see applicant's specification, Background of the Invention); the plurality of abrasive particles is arranged on at least a portion of the top substrate surface, the abrasive particles being affixed to the substrate with a matrix material (see column 11, lines 40-42); and the career is affixed (see column 11, lines 42-45) to the bottom substrate surface (that surface that does not have abrasive), wherein the carrier comprises at least one of synthetic plastic or ceramic (see column 10, lines 54 through column 11, lines 25, the carrier is made of a polymer material such as PET); and wherein the

abrasive particles comprise at least one of aluminum oxide, cubic boron nitride, or diamond, (see column 7, lines 52-55, the abrasive is diamond).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12, 23 and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sung, 6,679,243 in view of Gurusamy et al, 6,361,423. Regarding claims 1-12, Sung discloses a method of making an abrasive tool and the various tools that result from the method, including polishing pad conditioning tools. A representative embodiment is summarized for example in column 8, lines 22-54. This embodiment comprises a substrate, a plurality of abrasive particles, and a carrier; here the carrier is the tool to which the substrate, carrying the particles is affixed. See for example column 9, lines 52-53. Further disclosure describing the materials of the substrate, abrasive, and carrier can be found in column 10, lines 56 through column 11, lines 3, defining embodiments attaching the abrasive to the substrate; column 12, lines 26-29, defining the substrate; column 12, lines 49-55, defining the abrasive; column 16, lines 54 through column 17, lines 32, defining embodiments on how the substrate is made; column 18, lines 23-64, defining the process of attaching the abrasive to the substrate, and attaching the substrate to a carrier. Note also example 15, where the tool is a conditioning disk. The substrate has top (here, the top surface is that which has the

abrasive and which contacts the workpiece in use) and bottom (here, that surface that contacts the carrier) surfaces; the plurality of abrasive particles is arranged on at least a portion of the top substrate surface, the abrasive particles being affixed to the substrate with a matrix material (see column 16, lines 39-53); and the carrier (see column 24, lines 53-62) is affixed ("covers" as disclosed, but in order to be used to condition a pad, it must inherently be "affixed", either mechanically or chemically) to the bottom substrate surface; the abrasive particles comprise at least one of aluminum oxide, **cubic boron nitride**, or **diamond**, (see column 12, lines 49-55); the matrix material comprises at least one of aluminum, boron, carbon, chromium, tungsten, **cobalt**, titanium, zinc, **iron**, manganese, or silicon, (column 18, lines 23-64), and further comprises a corrosion resistant powder, (column 20, lines 31-48, where the carbide former contains nickel, Ni), (**nickel**, defined as: a silver-white hard malleable ductile metallic element capable of a high polish and resistant to corrosion that is used chiefly in alloys and as a catalyst[1]); the substrate is formed of the matrix material; the substrate is more flexible than the carrier; the abrasive particles are arranged in a predetermined pattern; the matrix material comprises a brazing alloy; the abrasive particles are **diamond** and the brazing alloy comprises at least one of **chromium**, tungsten, cobalt, **titanium**, zinc, iron, manganese, or **silicon** (column 20, lines 31-47); the abrasive particles can be **cubic boron nitride** (see column 12, lines 49-55).

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[1] Merriam-Webster's Collegiate Thesaurus copyright © 1988 by Merriam-Webster, Incorporated.

Regarding claims 23 and 25-30, please refer to the paragraphs above. Further, Sung discloses that it is known to make conventional conditioners by electroplating abrasive to a substrate, see for example, column 24, lines 53-61.

Regarding the use of aluminum oxide as the abrasive, in the Office action of 15 April 2005, the examiner took Official notice that the use of aluminum oxide, an old and well known abrasive, would have been obvious to one of ordinary skill. Applicant did not traverse in the response filed 15 July 2005. In accordance with MPEP 2144.03, the use of aluminum oxide is therefore admitted as prior art.

Sung does not disclose that the carrier comprises at least one of a synthetic plastic or ceramic. Sung does disclose that there can be a carrier, see example 15 as a conditioning tool, or the description through out the disclosure of the tool structures that carry the abrasive tools. In a similar apparatus, Gurusamy (please refer to the rejection under 35 USC 102(b) and column 10, lines 54 through column 11, lines 25, the carrier is made of a polymer material such as PET), teaches the use of synthetic plastic as the material of a carrier for a conditioning disk. Because both references teach using a carrier affixed to a substrate carrying diamond grit to form a conditioning disk, it would have been obvious to one of ordinary skill to substitute one carrier material for another to achieve the predictable result of providing a suitably rigid carrier for the disk, to prevent unwanted distortion of the disk during use. (KSR International Co. v. Teleflex Inc.; 550 U.S.---, 82 USPQ2d 1385 (2007)).

(10) Response to Argument

First Ground of Rejection

Appellant argues that the tool as disclosed by Gurusamy is not the conditioning disk claimed. The examiner strongly disagrees. Gurusamy clearly discloses a conditioning disk that comprises a substrate having top and bottom surfaces; a plurality of abrasive particles arranged on at least a portion of the top substrate surface, the abrasive particles affixed to the substrate with a matrix material, and a carrier affixed to the bottom substrate surface, the carrier comprising a synthetic plastic (please refer to the rejection above). Appellant is apparently arguing that because the carrier **158** is not permanently affixed to the substrate, it cannot meet the claimed limitation. This is not correct. Appellant has not claimed that the carrier must be permanently affixed, or even how the carrier is affixed, to the substrate. The carrier **158** described by Gurusamy is affixed to the substrate, albeit removably, by magnetic force, see column 11, lines 34-45. That applicant has described other affixing mechanisms is moot, as appellant has not claimed them. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further, it appears that appellant is arguing that the conditioning disk of Gurusamy is not of a one-piece construction, however, the final assembled tool is one-piece.

Second Grounds of Rejection

Appellant argues that Sung discloses, for example in Example 18, a single layer of diamond brazed directly on to the substrate, the substrate being the stainless steel

disk. The examiner disagrees in part. The substrate, as clearly described throughout the disclosure of Sung, is a layer of matrix material, either in the form of a loose powder, or a cohesive layer. The abrasive grits are planted onto the substrate. Brazing material is then placed over the particles, and processed to form the binder between the grits and the substrate. The resultant abrasive material is then affixed to a carrier, the carrier being the tool body, either a disk, wire, saw blade, or any other carrier, including the disk of example 15. However, the examiner agrees that Example 18 is ambiguous, and can be interpreted to mean that the brazing material is the matrix, and the steel disc the substrate. Given that the tool can be made as such, according the Sung's disclosure, the examiner will not rely on this particular teaching. But Sung *as a whole* teaches providing a substrate having top and bottom surfaces, the substrate being the layer into which the grits are planted, and a matrix material, the brazing material, to affix the grits onto the substrate. The substrate is then affixed to a structure which acts as a carrier, in that it holds the substrate during use, be it a saw blade, drill, or conditioning disk carrier. That Sung does not expressly use the word "carrier" is moot, the examiner has clearly designated those structures interpreted to be carriers throughout the prosecution of the application.

In a similar device, Gurusamy clearly teaches the desirability of providing a carrier, **158**, of synthetic plastic material, here, Polyethylene terepthalate (PET), to form a rigid holder for the disk, which one of ordinary skill would recognize would prevent the disk from distorting in use and damaging the polishing pad.

Again, appellant argues that Gurusamy does not teach a conditioning disk. It appears that applicant is arguing that the conditioning disk of Gurusamy is not of a one piece, permanently assembled construction. But such is not claimed, and it is the examiner's position that the tool taught by Gurusamy is a conditioning disk as claimed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/M. Rachuba/
Primary Examiner
Art Unit 3723

Conferees:

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